least as great, so that 10 per cent, manganese corresponding to 13 per cent. MnO also should be present in the slag.
Thereby the amounts of metallic oxides in a good final slag are fixed at about 26 per cent, of its weight.
(2) Relative Proportions be.tirwn Acids and Alkaline Earths in Final Slays.
For the estimation of the relative ratios between acids and alkaline earths in good final slag, the chemical constitution of the same will furnish the best basis. Unfortunately, this question has not as yet received its theoretical answer, and thus there remains nothing left but to utilise as a basis and investigate the slag analyses from practice, and to derive in purely empirical manner from a great number of these, data which are able to be of value in practice.
The most essential property of the slag is its fluidity. As fluxes for the final slag, since the major portion of it consists of bases, only the two acids, silicic acid and phosphoric acid, are able to be taken into consideration. H. 11. Campbell takes evidently the same view, if he desires for a good final slag a content of 26 to 27 per cent. Si02+LW These figures pass however, only seldom to other proportions.
Nowadays one generally assumes that the phosphoric acid in the final slag is always present in a form of phosphate of lime, and it is quite defined. There must thus be i^Of, and CaO always united in quite definitely relative ratios to each other.
If one further assumes that this lime phosphate consists of the tetrabasic phosphate Ca,tPa00, there is thus in it per unit of weight PjjOc;' 1"58 weight units CaO, which yields 2*58 weight units of Ca^IW
Since the phosphoric acid almost always is only derived from the P in the charge, there originates from 1 per cent. P, 2*29 per cent. PaO<j, which requires 8*61 per cent. CaO and yields 5'9 per cent. CaJ^Og . . . (88).
One can thus accordingly deduct the phosphoric acid in the form of lime phosphate in slag, and thereby make the latter more easily reviewable in respect of its remaining ingredients.